

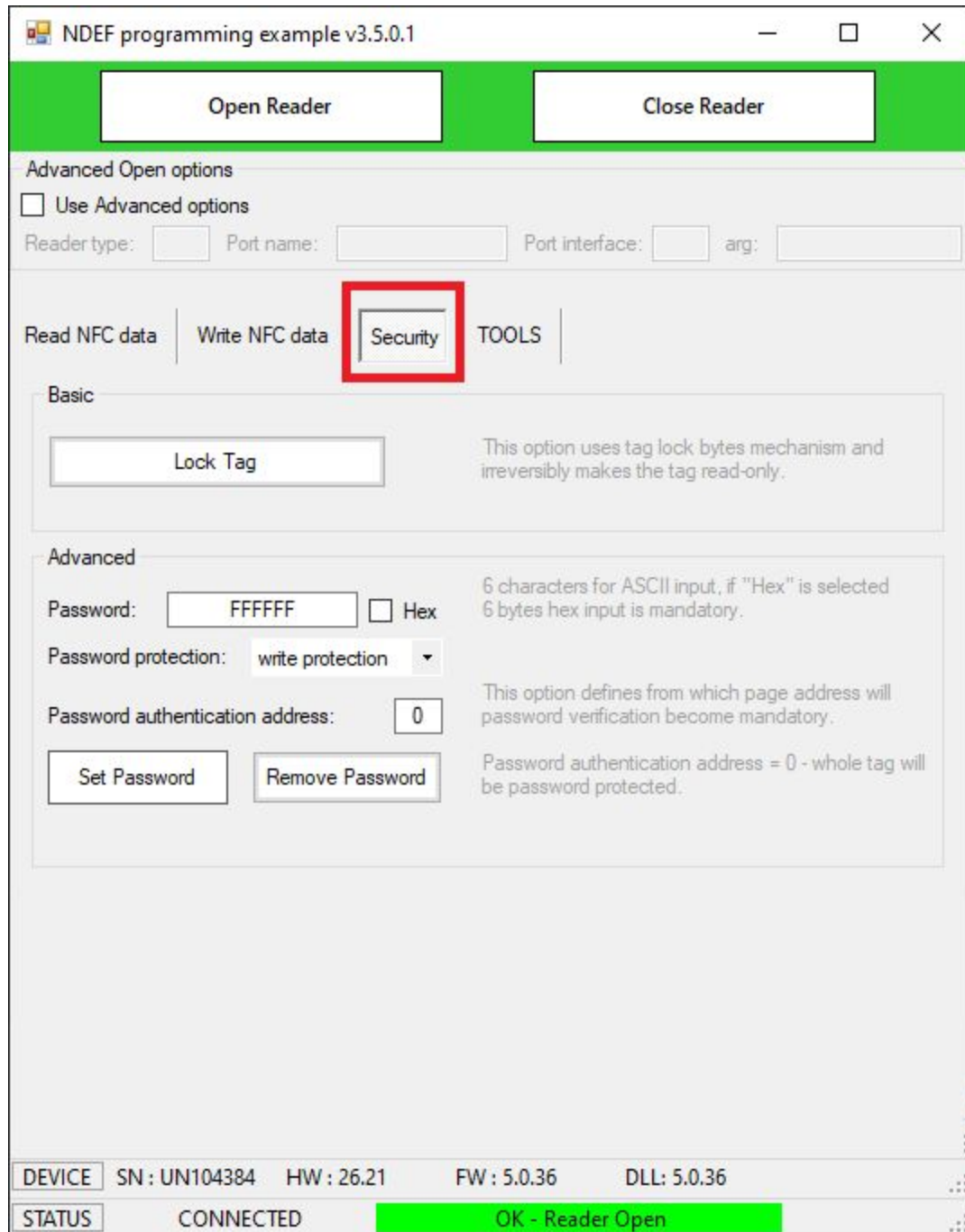
μFR NDEF C# Example - Tag locking & password settings

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Security tab settings

Navigate to tab 'Security'



NDEF programming example v3.5.0.1

Open Reader Close Reader

Advanced Open options

☐ Use Advanced options

Reader type: Port name: Port interface: arg:

Read NFC data Write NFC data **Security** TOOLS

Basic

Lock Tag This option uses tag lock bytes mechanism and irreversibly makes the tag read-only.

Advanced

Password: FFFFFFFF ☐ Hex 6 characters for ASCII input, if "Hex" is selected 6 bytes hex input is mandatory.

Password protection: write protection

Password authentication address: 0 This option defines from which page address will password verification become mandatory.

Set Password Remove Password Password authentication address = 0 - whole tag will be password protected.

DEVICE SN : UN104384 HW : 26.21 FW : 5.0.36 DLL : 5.0.36

STATUS CONNECTED OK - Reader Open

Under 'Basic' category, is the following option: **Lock tag**.

Important: This card operation uses tags static/dynamic lock bytes mechanism, as such, it shall make tag read-only and is irreversible!

If the tag is already password protected, **WRITING ERROR** shall appear in the status field:

NDEF programming example v3.5.0.1

Open Reader Close Reader

Advanced Open options

☐ Use Advanced options

Reader type: Port name: Port interface: arg:

Read NFC data Write NFC data Security TOOLS

Basic

Lock Tag

This option uses tag lock bytes mechanism and irreversibly makes the tag read-only.

Advanced

Password: FFFFFFFF ☐ Hex 6 characters for ASCII input, if "Hex" is selected 6 bytes hex input is mandatory.

Password protection: write protection

Password authentication address: 0 This option defines from which page address will password verification become mandatory.

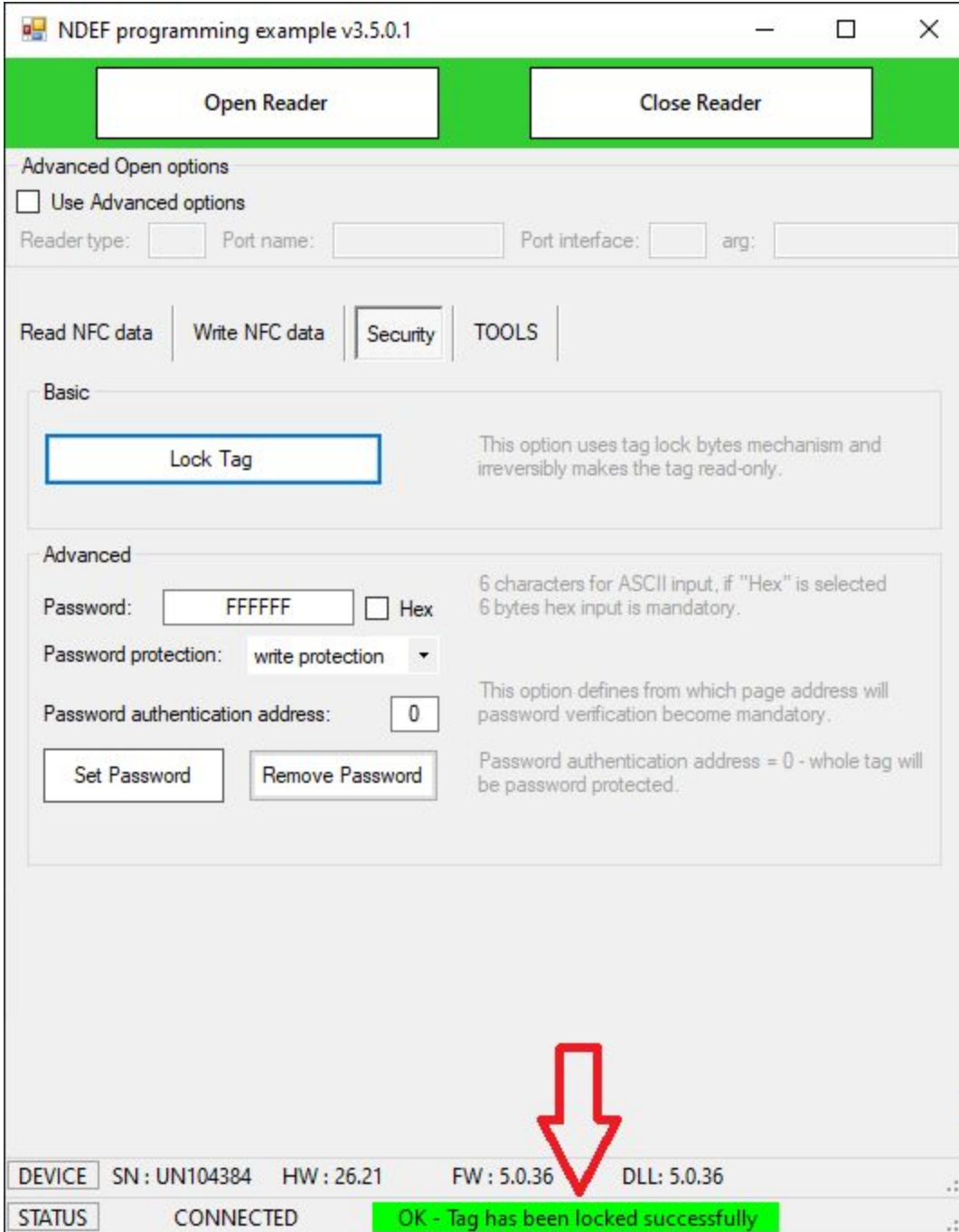
Set Password Remove Password Password authentication address = 0 - whole tag will be password protected.

DEVICE SN : UN104384 HW : 26.21 FW : 5.0.36 DLL : 5.0.36

STATUS CONNECTED WRITING ERROR

In case of this error, please remove password first, and then restart the process by clicking on 'Lock Tag' button.

In case of a successful "Lock Tag" operation, following status shall appear:



The screenshot shows the 'NDEF programming example v3.5.0.1' window. At the top, there are 'Open Reader' and 'Close Reader' buttons. Below them is the 'Advanced Open options' section with a checkbox for 'Use Advanced options' and fields for 'Reader type', 'Port name', 'Port interface', and 'arg'. A tabbed interface shows 'Read NFC data', 'Write NFC data', 'Security' (selected), and 'TOOLS'. Under the 'Security' tab, there are two sections: 'Basic' and 'Advanced'. In the 'Basic' section, the 'Lock Tag' button is highlighted with a red arrow. In the 'Advanced' section, there are fields for 'Password' (set to 'FFFFFF'), 'Hex' checkbox, 'Password protection' (set to 'write protection'), and 'Password authentication address' (set to '0'). Below these are 'Set Password' and 'Remove Password' buttons. At the bottom, a status bar shows 'DEVICE' information (SN: UN104384, HW: 26.21, FW: 5.0.36, DLL: 5.0.36) and 'STATUS' as 'CONNECTED'. A green bar at the bottom right displays the message 'OK - Tag has been locked successfully'.

After a successful operation, as shown in the image above, tag data is set to read-only, and as such, no new data or changes to existing data, can occur.

Under '**Advanced**' category, are the following options: **Set Password** and **Remove Password**.

Set Password parameters:

- **Password:** can be entered as 6 hex bytes or 6 ASCII characters, checking 'Hex' checkbox will determine password encoding.
- **Password protection:** Used for determining password protection level, since password can be used as a method for either write protection, or read/write protection of card data.
- **Password authentication address:** Used for determining from which tag page shall data be protected by password, using this parameter with value 0 means password will cover the whole card.

After setting password successfully following status shall appear:

The screenshot shows the 'NDEF programming example v3.5.0.1' application window. At the top, there are 'Open Reader' and 'Close Reader' buttons. Below them is the 'Advanced Open options' section with a checkbox for 'Use Advanced options' and input fields for 'Reader type', 'Port name', 'Port interface', and 'arg'. The main interface has four tabs: 'Read NFC data', 'Write NFC data', 'Security' (which is selected), and 'TOOLS'. Under the 'Security' tab, there are two sections: 'Basic' and 'Advanced'. The 'Basic' section has a 'Lock Tag' button and a description: 'This option uses tag lock bytes mechanism and irreversibly makes the tag read-only.' The 'Advanced' section contains a 'Password' field with 'FFFFFF' entered, a 'Hex' checkbox, a 'Password protection' dropdown set to 'write protection', and a 'Password authentication address' field with '0' entered. There are 'Set Password' and 'Remove Password' buttons. A red arrow points to the status bar at the bottom, which displays 'DEVICE SN : UN104384 HW : 26.21 FW : 5.0.36 DLL : 5.0.36' and 'STATUS CONNECTED OK - Password set successfully'.

Important: To apply these changes to the tag, remove the card from the reader field, then place it on the reader again.

Remove password parameters:

- **Password:** Used for authentication, authentication with an old password is necessary, this parameter will be used for rewriting tag data so the password protection is invalidated.

After removing password successfully following status shall appear:

The screenshot shows the 'NDEF programming example v3.5.0.1' application window. At the top, there are 'Open Reader' and 'Close Reader' buttons. Below them is the 'Advanced Open options' section with a checkbox for 'Use Advanced options' and fields for 'Reader type', 'Port name', 'Port interface', and 'arg'. The main interface has tabs for 'Read NFC data', 'Write NFC data', 'Security', and 'TOOLS'. The 'Security' tab is active, showing a 'Basic' section with a 'Lock Tag' button and an 'Advanced' section. In the 'Advanced' section, the 'Password' field is set to 'FFFFFF', 'Hex' is unchecked, 'Password protection' is set to 'write protection', and 'Password authentication address' is set to '0'. The 'Remove Password' button is highlighted with a blue border. A red arrow points from this button down to the status bar at the bottom of the window. The status bar shows 'DEVICE' information (SN: UN104384, HW: 26.21, FW: 5.0.36, DLL: 5.0.36) and 'STATUS' as 'CONNECTED'. A green bar at the bottom of the status bar displays the message 'OK - Password removed successfully'.

Revision history

Date	Version	Comment
2019-04-09	1.0	Base document